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Supporting Information

S.1. Atomic Force Microscopy

The Root Mean Square (RMS) parameter, R_{rms}, is defined as:

$$R_{rms} = \sqrt{\frac{1}{MN}\sum_{k=0}^{M-1}\sum_{l=0}^{N-1}\left[z\left(x_{k,}y_{l}\right)\right]^{2}}$$

The Surfaces Area Ratio, Sdr, expresses the increment of the interfacial surface area relative to the area of the projected (flat) x,y plane:

$$Sdr = \frac{\left(\sum_{k=0}^{M-2}\sum_{l=0}^{N-2}A_{kl}\right) - (M-1)(N-1)\delta x\delta y}{(M-1)(N-1)\delta x\delta y}100\%$$

$$A_{kl} = \frac{1}{4}\left(\begin{array}{l}\left(\sqrt{\delta y^{2} + (z(x_{k}, y_{l}) - z(x_{k}, y_{l+1}))^{2}}\right) + \left(\sqrt{\delta y^{2} + (z(x_{k+1}, y_{l+1}) - (z(x_{k+1}, y_{l+1})^{2}}\right) \\ (\left(\sqrt{\delta x^{2} + (z(x_{k}, y_{l}) - z(x_{k+1}, y_{l}))^{2}}\right) + \left(\sqrt{\delta x^{2} + (z(x_{k}, y_{l+1}) - z(x_{k+1}, y_{l+1}))^{2}}\right)\end{array}\right)$$

For a totally flat surface, the surface area and the area of the xy plane are the same and Sdr = 0 %.

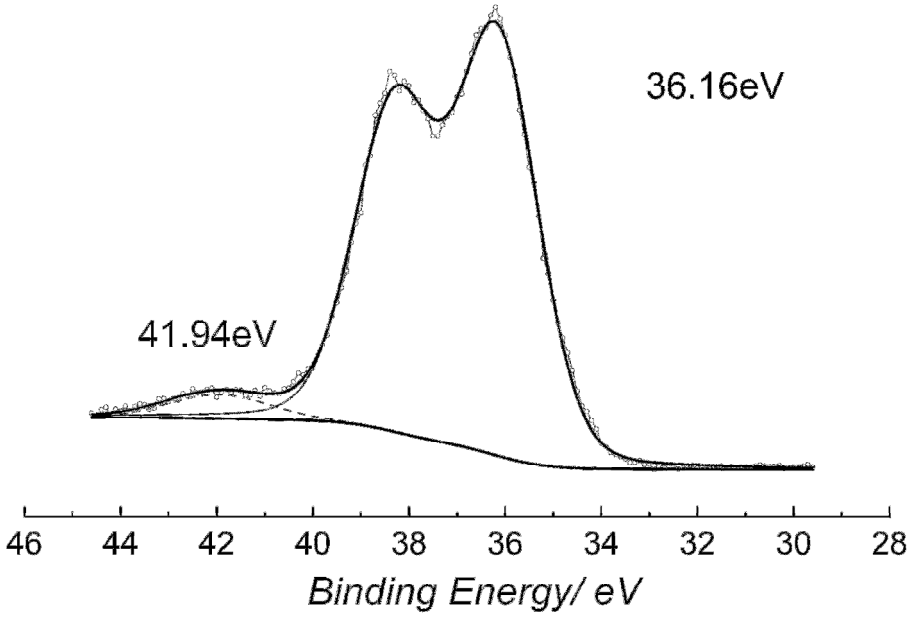

Figure S2: X-ray photoemission spectrum of ormosil-A: W 4*f* and 5*p* core level region